

# Congenital granular cell tumor in newborn

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## ABSTRACT

The congenital granular cell tumor (CGCT) is quite scarce at the infant. The patient, who has a 2-day-old female newborn, was admitted to the Department of Pediatric Dentistry. Baby had a smooth surfaced, non-fixated mass, found on the anterior part of the mandibular alveole, developing from the gingival mucosa. Clinical examination showed a 1 cm × 1 cm × 1.8 cm pedunculated, regular, pink colorful soft-tissue gob on the alveolar crest to the left side of the mandible. The gob was removed on the seventh postnatal day under general anesthesia. Then, the specimen was evaluated histopathologically. Post-operative recovery and surgical site healing was satisfactory. The CGCT is a rare, degenerative or reactive lesion of the oral cavity. The mass may surgically remove if the diagnosis is not definite clinically and this can lead therapeutic effect.

**Key words:** Alveolar ridge, granular cell tumor, immunohistochemistry, newborn

## INTRODUCTION

The congenital granular cell tumor (CGCT), Neuman tumor or known as congenital granular cell epulis in the aesculapian paper, is pretty scarce in the newborn period.<sup>[1]</sup> The CGCT was described in authentication the first case by Neumann.<sup>[2]</sup> Other investigators concentrated on the line muscle and neurogenic origin of the tumor.<sup>[3,4]</sup> Owing to clinical appearance and histologic accidence, the CGCT is mostly not arduous to diagnose. On the other hand, the CGCT has been the matter of substantial dispute with respect, to its histogenesis.<sup>[5]</sup> The CGCT is evaluated to arise from indifferentiated mesenchymal cells, histiocytes, fibroblasts, and myofibroblasts, Schwann cells or odontogenic epithelial cells.<sup>[6]</sup> The proposed treatment for CGCT is immediate surgical excision owing to interferences with feeding, respiration or adequate closure of the mouth.<sup>[7]</sup>

We reports a 2-day-old female child, diagnosed CGCT and review of the relevant literature.

## CASE REPORT

A newborn girl child (on the second postnatal day), was admitted to the Gulhane Medical Academy, Department of Pediatric Dentistry with a smooth surfaced, non-fixated mass, situated on the anterior part of the mandibular alveole, developing from the gingival mucosa. The prenatal ultrasound did not show any perversion. When the parents anamnesis taken inheritable illnesses was no reported. Furthermore, the patient had no other medical problems. Clinical examining revealed signs of a 1 cm × 1 cm × 1.8 cm stemmed, regular, pink-colorful soft-tissue gob on the alveolar crest to the left of the mandibular alveolar area [Figure 1]. The neighbor tissues were normally at the first visit. However, the mass on the alveolar ridge showed growth and ulceration between first and second visit. After that, it was decided that the mass needed to be removed and the baby was operated on the seventh postpartum day under general anesthesia [Figure 2a]. The gob was removed and submitted for histopathological evaluation [Figure 2b].

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Histopathological examination indicated a tumor composed with uniform appearance including round-polygonal cells with a large eosinophilic cytoplasm and oval, innocent looking nuclei that was coated by partly ulcerated multilayered squamous epithelium on the superficies [Figure 3].

At the end of 6 months, the post-operative surgical site healing and recovery occurred uneventfully [Figure 4]. Recurrence was not seen.

## DISCUSSION

CGCT is also called for as congenital epulis of the newborn,<sup>[8,9]</sup> congenital granular cell lesion<sup>[10]</sup> and Neumann's tumor.<sup>[2]</sup> It is a very rare lesion and its derived from the mucosa of the gingival, typically from the anterior section of the maxillary alveolar crest, but the cases are also reported where the lesion was localized in the mandibular gingival (with the 3:1

maxillary predilection).<sup>[11,12]</sup> In general, newborn patients represent with a single lesion although, there have been case reports of multiple lesions<sup>[13,14]</sup> and one case report of a newborn with involvement of the alveolar area as well as tongue. CGCT has a 9:1 sex predilection for females.<sup>[10]</sup> Some mass of CGCT might develop 9 cm in diameter,<sup>[15]</sup> although very tiny lesion might show spontaneous regression.<sup>[16]</sup> Our case is a female child with two different tissue localized on the anterior crest of the mandible and no spontaneous regression is observed. A great deal of ideas has been put forward to clarify the origin of CGCT. Most favored theories are odontogenic epithelial and gingival epithelial theories, which support its origin from the mesenchyme.<sup>[5,17]</sup>

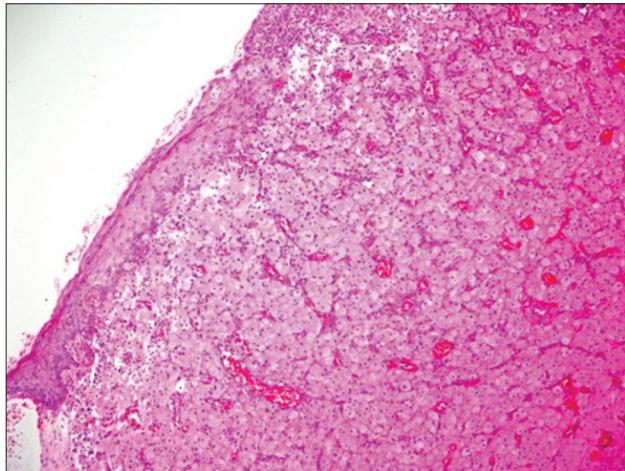
The conventional administration of the CGCT has been entire surgical excision of the mass under either local anesthesia or general anesthesia, as soon as possible after birth.<sup>[14,18,19]</sup> Surgical excision is curative and no recurrences even following incomplete excision have been reported.<sup>[10,20]</sup> The lesion prognosis is at all times benign even if surgery is incompetent.<sup>[17]</sup> It has been recommended that the innoxious clinical act of the lesion is logical with a degenerative or reactive nature.<sup>[17,21]</sup> Actually, the administration offeeding and breathing difficulties caused by the lesion is much more crucial than the nature of the tumor.<sup>[5]</sup>



**Figure 1:** Pre-operative clinical view of the congenital granular cell tumor



**Figure 2:** (a) Intra-operative view of the case. (b) The appearance of the extracted mass



**Figure 3:** Round-polygonal cells with a large eosinophilic cytoplasm overlying squamous epithelium (H and E,  $\times 100$ )



**Figure 4:** Post-operative clinical image 6 months after the surgery

The main differential diagnosis for the CGCT is myoblastoma (adult CGCT). Both congenital and adult CGCT have histopathologically identical cells.<sup>[11,22]</sup> It is clinically interfered some diseases such as, lymphangioma, hemangioma, granuloma, fibroma, rhabdomyoma, schwannoma and heterotopic gastrointestinal cyst, embryonal and alveolar rhabdomyosarcoma, chondrogenic, and osteogenic sarcoma.<sup>[23,24]</sup>

This case is similar to several others in being found at birth in a female baby, but located on the mandibular ridge, which is the less common site for it.<sup>[20,25]</sup>

## CONCLUSION

The CGCT is a scarce, degenerative or reactive lesion of upper or lower jaw. The diagnosis is suspected clinically and treatment by simple surgical removal has a curative effect. In addition, histopathologic investigation is accepted the gold standard in the diagnostic process.

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